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ABSTRACT

Designed to prepare students to operate the types of accounting machines used in many medium-sized businesses, this instructor's guide presents a full-year high school course in machine accounting covering 120 hours of instruction. An introduction for the instructor suggests how to adapt the guide to present a 60-hour module which would be suitable for a one-semester high school course or for an advanced adult course, a 30-hour module, or a 10- to 15-hour module. The introduction also includes statements about objectives for the sections, prerequisites for the course, course credit, and major sequences into which the course would fit. The guide consists of six sections: Orientation to machine accounting, payroll, accounts payable, accounts receivable, billing, and age analysis. Objectives are given at the beginning of each section. Within each section, the content outline appears on the left-hand side of the page, and content details and teaching suggestions are given on the right-hand side. Forms and other illustrative material appear throughout the guide. (LMS)

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AN INSTRUCTOR'S GUIDE

Machine Accounting

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Bureau of Occupational Education Curriculum Development
Albany, New York 12234
1976

CE 011 457

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Foreword

This Instructor's Guide, *Machine Accounting*, is designed to prepare students to operate the types of accounting machines used in many medium-sized businesses. The publication provides flexibility in scheduling and instruction to answer a variety of employment and educational needs. A course can be scheduled for a full year in a secondary school program or as a single-semester course. It can also be offered as a shorter module coupled with other related modules or used in an adult program for occupational upgrading.

The increased use of computers in large businesses has not appreciably reduced the need for accounting machine operators. Bookkeeping instruction is not a prerequisite to this program. Bookkeeping principles are learned during the instruction. It can be used as a component of a business education sequence as outlined in the Introduction.

This publication was initiated by Hobart H. Conover, Chief, Bureau of Business Education, to meet the ongoing demand for competent accounting machine operators.

The scope of the subject matter in this publication was outlined by an advisory committee consisting of the following:

DeWitt Clinton, teacher, Orange County BOCES, Goshen
Joseph Fiato, teacher, Nassau County BOCES, Westbury
Neil Vincelette, chairman, Business and Distributive Education Department, Carle Place High School, Carle Place

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Mr. Vincelette wrote the manuscript under the supervision of Mr. Gould and Mr. Wing. Mr. Gould edited the manuscript and prepared it for publication.

G. Earl Hay, *Chief*
Bureau of Occupational Education Curriculum Development

Gordon E. Van Hooft, *Director*
Division for Curriculum Services

Message to the Instructor

The Course *Machine Accounting* described in this syllabus provides for "hands on" instruction in the operation of accounting machines such as the Burroughs L6000, the Monroe President, the NCR 399, the Olivetti P603, and others.

The idea for developing this course originated with the Bureau of Business Education and was based on a need shown by the local schools with which this bureau is in contact. Accounting machines are used by many medium-sized businesses and public agencies, and many high schools, area occupational education centers, and adult programs in New York State are offering courses in the operation of these machines.

Accounting machines have a limited data storage capacity and in some firms the functions of these machines have been taken over by more versatile, more sophisticated (although much more expensive) automatic data processing systems. Also ADPS equipment is shrinking in size and cost. These factors have created a tendency toward decreasing use of accounting machines. However, other forces are present which militate toward increasing use of accounting machines.

Information from sources such as the *Occupation Outlook Handbook* indicate that the need for operators of accounting machines is likely to increase, although slowly, in New York State in the next few years. Taken together, all the factors mentioned have caused changes in demand for operators of accounting machines which vary from one part of the State to another. Before introducing a program for training operators of these machines, the local education agency should ascertain that the number of job openings available justifies the expense of the program.

The subject matter in this book can be used in either a secondary or continuing education course or module. As presented, it is suitable for a full-year secondary school course and fits into three different sequences in a business program, as explained in the Introduction. Further information on learning objectives, prerequisites, course sequences, and course credits are also given in the Introduction.

An instructor or administrator who needs help in planning or conducting a course using this publication may contact the Bureau of Business Education.

Hobart H. Conover, *Chief*
Bureau of Business Education

Douglas T. Adamson, *Director*
Division of Occupational Education Instruction

Contents

		Page
Foreword		iii
Message to the Instructor		iv
Introduction		1
Section 1	Orientation to Machine Accounting	4
Section 2	Payroll	12
Section 3	Accounts Payable	24
Section 4	Accounts Receivable	41
Section 5	Billing	55
Section 6	Age Analysis	58

List of Figures

Figure No.	Title	Page
1.1	Payroll Journal with Sample Entries	11
2.1	Payroll Journal Blank Form	14
2.2	Time Card	15
3.1	Direct Proof Journal	26
3.2	Purchases Zero Proof Journal	27
3.3	Cash Disbursements Zero Proof Journal	27
3.4	Sample Invoice	32
3.5	Excerpt from Invoice	37
4.1	Sales Zero Proof Journal	43
4.2	Sample Sales Invoice	49

Introduction

The subject matter contained in this book is presented as a full-year high school course covering 120 clock-hours of instruction. The use of only selected parts of the subject matter permits the giving of a one-semester (60-hour) high school course, or a 30-hour module, or a module of 10 to 15 hours. The number of units of credit applicable is explained on page 3.

60-Hour Module

A 60-hour module in machine accounting, besides being suitable for a one-semester high school course, is also appropriate as an advanced adult course. The content of such a course could be offered as two 30-hour modules. Content for the 60 hours is as follows:

Part Within Section	Topic	Class Hours
	Section 1	
I.	Use of Accounting Machines in Business	½
II.	Jobs Using Accounting Machines	½
III.	Use of an Adding Machine	1½
IV.	Problems to be Solved on Adding Machine	
	Section 2	
I.	Machine Forms (Payroll)	1½
II.A.	Source Documents (Have students compute time and earnings data.)	6
II.B.	Preparation for Posting (Payroll)	1
III.	Problem 1, Basic Posting Procedure	4
IV.	Problem 2, Basic Posting Procedure	
V.	Problem 3, Comprehensive Payroll Procedure	
VI.	Problem 4, Comprehensive Payroll Procedure (Give the students completed Time Cards.)	5
	Section 3	
I.	Machine Forms (Accounts Payable)	1½
II.A.	Preparation for Posting (Accounts Payable)	1½
II.C.1.a.	Posting Charges (Purchases) with Distribution, Method I, (Group Totaling). (Cover two problems.)	8½
II.C.1.b.	Posting Charges (Purchases) with Distribution, Method II, (Without Group Totaling). (Cover two problems.)	8½
II.C.2.	Posting Credits (Cash Disbursements) with Distribution. (Do two problems.)	20
	Total hours	60

30-Hour Module

A 30-hour module is useful not only as an adult course but also as part of a course in office practice. The content suggested for such a course is as follows:

Part Within Section	Topic	Class Hours
	Section 1	
I.	Use of Accounting Machines in Business	½
II.	Jobs Using Accounting Machines	½
III.	Use of an Adding Machine	1½
IV.	Problems to be Solved on Adding Machine	
	Section 2	
I.	Machine Forms (Payroll)	1½
II.A.	Time Card (as a source document). (Explain only. Give students time and pay data for posting.)	1
II.B.	Preparation for Posting (Payroll)	1
II.C.	Entry of Payroll Data	
III.	Problem 1, Basic Posting Procedure. (Provide completed Time Cards.)	4
	Section 4	
I.	Machine Forms to be Used (Accounts Receivable)	1½
II.	Entry of Accounts Receivable Data	
III.	Preparation for Posting (Accounts Receivable)	1½
V.A.1.	Posting Charges (sales) with Distribution (in a Zero Proof System). (Cover Method I only, Posting with Group-Totaling.) Include two problems.)	7
V.B.	Posting Credits (Cash Receipts) with Distribution (Cover two problems.)	10
	Total hours	30

10-to-15-Hour Module

A module of 10 to 15 hours is suitable as a part of a course in office practice. Suggested content for such a module is as follows:

Part Within Section	Topic	Class Hours
	Section 1	
I.	Use of Accounting Machines in Business	½
	Section 4	
I.	Machine Forms to be Used	½
II.	Entry of Accounts Receivable Data	
III.	Preparation for Posting	½-1
V.A.1.	Posting Charges (sales) with Distribution (in a Zero Proof System). Cover Method I only, Posting with Group-Tocaling.	5-7

(Continued on next page)

Part Within Section	Topic	Class Hours
V.B.	Posting Credits (cash receipts) with Distribution. Assign one problem. Give students total credit and credits to post.	4-6
	Total hours	10-15

Objectives

Objectives for each section of the full-year (120-hour) course are given at the beginning of each section. For the modules of other lengths, the objective (or objectives) can be selected from the section objectives.

Prerequisites

It has been found that students in a machine accounting course learn the theory of bookkeeping and accounting as they learn to operate a machine. Therefore, no previous training in either bookkeeping or accounting (nor in any other business subject) is *required* for admission to Machine Accounting. However, previous instruction in bookkeeping and accounting or business mathematics is very desirable for those entering this course. Skill in typing and in the operation of an adding or calculating machine is also valuable for learning machine accounting.

Course Credit

One unit of credit may be granted for a full-year, single-period course in Machine Accounting covering at least 120 clock-hours of instruction. A $\frac{1}{2}$-unit of credit may be granted for a 1-semester, single-period course (60 clock-hours) or its equivalent. Credit for modules of a shorter duration should be granted only as part of a series of related modules aggregating half a unit or more. In any case, credit may be granted only in $\frac{1}{2}$-unit multiples. Note: In each case, daily out-of-class work is required for the same number of hours as the instructional hours. For the 1-unit course, 120 hours of out-of-class work is required; for the $\frac{1}{2}$-unit course, 60 hours.

Major Sequences

The following 3-unit sequences are recommended as appropriate for students desiring to develop entry-level job proficiency in machine accounting:

Typewriting I
Bookkeeping/Accounting I
Machine Accounting

Typewriting I
Office Practice I
Machine Accounting

Typewriting I
Machine Accounting
Data Processing I

When Machine Accounting is offered as a $\frac{1}{2}$-unit course, it should be paired with another $\frac{1}{2}$-unit course to be part of a 3-unit vocational sequence. Three-unit sequences involving a $\frac{1}{2}$-unit course in Machine Accounting must be approved by the Bureau of Business Education before credit can be granted for them.

Section 1
Orientation to Machine Accounting

OBJECTIVES

Upon completion of this section, the student will be able to:

1. Demonstrate knowledge of the evolution of accounting machines
2. Name several kinds of businesses and jobs in which accounting machines are used
3. Name and point out all the operating parts of one of the accounting machines available in the classroom and tell the function of all keys and controls
4. Name five kinds of accounting operations which can be completed on an accounting machine
5. Do simple problems on an accounting machine involving the following operations: clear, add, subtract, multiply, subtotal, carry over, and total

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
I. Use of Accounting Machines in Business	
A. Types	Briefly trace the development of accounting machines from simple posting machines to modern electronic alphanumeric machines.
1. Design	Manufacturers follow similar principles of design for all accounting machines, whether mechanical or electronic.
2. Operation principles	The principles of operation are similar on all accounting machines whether mechanical or electronic and regardless of capacity.
3. Models available	Prepare a bulletin board showing machines with different capacities and features. This will give students a general background on accounting machines.
B. Kinds of businesses using accounting machines	
1. Medium-sized businesses	Retail fuel oil companies, wholesale food distributors, restaurant suppliers, banks, manufacturers, and other medium-sized businesses use accounting machines. Contact some of your local businesses and inquire about the make and model

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	of the machines they use, the applications, and the employment possibilities for your graduates. If possible, obtain copies of their source documents and machine forms.
2. Large businesses	Accounting machines are usually used as auxiliary equipment only in large businesses.
C. Records processed	Operations processed on accounting machines include the following: • Payroll • Accounts Payable • Accounts Receivable • Billing • Age Analysis There are many variations of the problems typically done by accounting machines, but all of them follow very closely the method shown in this syllabus.
II. Jobs Using Accounting Machines	
A. Entry-level jobs	Following are some entry-level jobs on accounting machines: • Billing clerk • Bookkeeping machine operator • Payroll clerk • Accounts payable clerk • Accounts receivable clerk Have students collect employment advertisements for these jobs at the entry level.
B. Advanced jobs	The following are more advanced jobs to which the machine bookkeeper might progress: • Assistant (or junior) bookkeeper • Bookkeeper • Office manager • Accountant Discuss experience and education needed for these jobs.
III. Use of an Adding Machine	Teachers have found that the simplest way to introduce pupils to *accounting machines* is through instruction on *adding* machines. They are similar in many ways.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
A. Parts of an adding machine	Spend a few minutes orienting pupils to the parts of adding machines and briefly explain what each part does. Any adding or calculating machine, preferably with a tape, can be used. The main parts are: • Keyboard • Plus key (motor bar) • Minus key • Total key • Correction key • Subtotal key • Spacing mechanism
B. Operations on an adding machine	Mention the operations performed on the adding machine and explain each briefly. The principal operations are: • Clearing • Adding • Subtracting • Subtotaling • Multiplying • Carrying over amounts • Totaling • Correcting errors • Setting spacing mechanism • Inserting tape into machine
IV. Problems to be Solved on Adding Machine	
A. Simple introductory problem	Prepare three adding machine problems like the one below. Have all students do all three until they do them without error. Tapes corrected properly by the machine are acceptable.
1. Sample problem	

Sample Problem

Regular earnings	$84.00
Overtime earnings	16.20
Gross earnings	?
Deductions:	
W. tax	12.80
FICA	5.40
NYST	3.10
Hosp.	2.50
Net pay	?

Tape Answer

```
      .00*
(+)  84.00
(+)  16.20
     100.20S
(-)  12.80
(-)   5.40
(-)   3.10
(-)   2.50

      76.40*
```

2. Operations performed — Note that along with the problem above, the following operations are to be covered: inserting tape, setting spacing, clearing, adding, subtracting, correcting, subtotaling, and totaling.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
3. Explanation of symbols	Explain the meaning of the various colors and symbols that print on the tape when certain keys are pressed. Examples are: * = plus total and cleared S = plus subtotal CR = negative total and cleared CR = negative subtotal black = positive red = negative
B. Multiplying on an adding machine	Design three problems similar to the one below and have the students do all three until perfect. Tapes corrected properly by machine are acceptable.

Sample Problem

35 hours x $2.40/hr.

with

Manual solution

$ 2.40
x 35
12.00
72.0
$84.00

Machine solution

Press $2.40 five times
then:
Press $24.00 three times
then:
Total*

Tape Answer

(Multiplying by stepover method of repetitive addition)

(+) 2.40
(+) 2.40
(+) 2.40
(+) 2.40
(+) 2.40
(+) 24.00
(+) 24.00
(+) 24.00
84.00*

C. Combined operations

Design five problems like the sample problem which follows and have the students do all five tapes until perfect. These should be done by the students in 30 minutes.

This problem combines clearing, multiplying, adding, subtracting, subtotaling, and totaling with carrying over. (The problem appears on the next page.)

CONTENT OUTLINE

CONTENT DETAILS AND TEACHING SUGGESTIONS

1. The problem

Sample Problem

35 Regular hours x $2.40/hr.

$4\frac{1}{2}$ Overtime hours x $3.60/hr.

Deductions:

W. Tax	$12.80
FICA	5.40
NYST	3.10
Hosp.	2.50

Regular earnings = ?
Overtime earnings = ?

a. Instructions

Carry over to the second tape the regular and the overtime earnings and arrive at the gross earnings as a subtotal. Subtract the deductions and arrive at the net pay.

b. First tape

First Tape

	.00*	Clearing
	(+) 2.40	
	(+) 2.40	
	(+) 2.40	Multiplying
	(+) 2.40	
	(+) 2.40	
	(+) 24.00	
	(+) 24.00	
	(+) 24.00	
Regular earnings	84.00*	Totaling
	(+) 1.80	
	(+) 3.60	
	(+) 3.60	
	(+) 3.60	
	(+) 3.60	
Overtime earnings	16.20*	Subtotaling

c. Second tape

Second Tape

	.00*	Clearing
Regular earnings	(+) 84.00	Carry over and adding
Overtime earnings	(+) 16.20	Carry over and adding
Gross	100.20S	Subtotal
W. Tax	(-) 12.80	
FICA	(-) 5.40	
NYST	(-) 3.10	Subtracting
Hosp.	(-) 2.50	
Net Pay	76.40*	Totaling

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
V. Orientation to Accounting Machine	
A. Features of accounting machine	Spend a few minutes going over the parts of your accounting machines and briefly explain what each part does. Inform your students that the major features of *all* accounting machines are the same regardless of the make or model. Point out the features that are the same on both adding machine and accounting machine. Some of the features (listed below) may be automatic on your accounting machines. If a feature is automatic, there may not be a key to press for it.
1. List of parts	The parts are: • Keyboard • Plus key (motor bar) • Minus key • Total key • Correction key • Subtotal key • Spacing mechanism • Reverse key • Bailer • Journal release lever • Front form release lever • Journal guides • Ledger guides • Vertical return key • Horizontal return key • Various register total keys • Carriage opening lever • Tab control lever • Nonselect key • Nonprint key • Date mechanism • Carriage release lever • Variable line spacer • Other special features of your particular machine
VI. Operation of Accounting Machine	
A. Inserting forms	Have the machine set up with a payroll program similar to the problems you did on the adding machines. Show how to line up and insert the

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	Payroll Journal, Fig. 1.1, the Earnings Record Card, and the Check and Check Stub. Have the students practice these operations several times until they master them.
B. Clearing the machine	The clearing must show on the Journal as evidence later. Following the prescribed procedure for your machine, clear it and check to see that every register is cleared. Have the students do this several times until they demonstrate mastery.
C. Readying the machine	Show how the date feature operates on your machine. If your model can accept loading of constant information (such as check numbers or FICA) now is the time to teach this. Following the prescribed procedure, show the students how to load information by setting posting dates and loading check numbers and taxes. Then have the students load information several times until they have mastered this procedure.
D. Entry posting procedure	For this procedure use the same problems that were done on the adding machine. You will have to make up previous earnings.
1. Journal only	Use only a Journal in the machine. Do not use an Earnings Record Card, Check, or Check Stub on these postings. Do not be concerned with supporting data such as employee number, pay periods, hours worked, check numbers, dates, or readying the machine. The purpose here is to demonstrate only the operation of the machine. Have each student post five problems.
2. Operations to be performed: Inserting Journal Clearing Posting	The operations are: 1. Insert Journal. 2. Clear machine. 3. Post a prepared payroll as follows: Pick up previous earnings. Pick up regular earnings. Pick up overtime earnings. Print gross earnings. Print earnings to date. Pick up withholding tax. Pick up FICA. Pick up NYS tax. Pick up hospitalization. Print net pay.

PAYROLL JOURNAL

Previous Earnings	Regular Earnings	Overtime Earnings	Gross Pay	Earnings to Date	With. Tax	FICA	NYS Tax	Hosp.	Net Pay
(+)1000.00	(+)84.00	(+)16.20	100.20S	1100.20	(-)12.80	(-)5.40	(-)3.10	(-)2.50	76.40*

Figure 1.1
PAYROLL JOURNAL
with Sample Entries

Section 2
Payroll

OBJECTIVES

Upon completion of this section of the course, the student will be able to complete a Payroll including the following operations:

1. Prepare a Time Card and compute regular and overtime hours worked applying various formulas for rounding off payroll time
2. Calculate regular and overtime earnings to determine gross pay
3. Use appropriate tax tables to determine Federal and State withholding taxes
4. Complete total deductions and arrive at the net pay
5. Demonstrate knowledge of the arrangement and layout of the Payroll Journal, Earnings Record Card, and Check
6. Post on an accounting machine in which set data and formulas have been loaded, a Payroll involving at least seven deductions and two sick pay and vacation slips
7. Apply knowledge of the forms and regulations for reporting and paying FICA and Federal and State withholding taxes

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
I. Machine Forms	A good approach to teaching payroll is to explain the various payroll forms and documents and prepare them for posting. Then do a weekly payroll. When selecting a pay period for your problem, one of the better periods is the first week of the second quarter of a fiscal year. This permits establishing first-quarter summary amounts that can be tied into the earnings-to-date and, if the capacity of the machine permits, taxes-to-date amounts as well. Call this pay period 14.
A. Earnings Record Card	A payroll of 6 to 10 employees is suggested, to be set up for posting payroll data. Use a 35-hour workweek. Prepare a sample Earnings Record Card for the class. Explain its purpose and format. Then have the students complete the remaining cards themselves.
1. Items to fill in	When filling in the Earnings Record Card, the students should give attention to the following: • Employee's name • Employee number • Wage rates (regular and overtime) • Regular pay for 40 hours • Fixed deductions

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	• Earnings-to-date (Draw line and show an amount.) • Deduction columns with blank headings • Summary section • Miscellaneous information Married or single Number of tax exemptions • Special deductions U.S. Savings Bonds Garnishments Extra withholding tax
2. Summary information	Provide all the summary information for the first quarter of the year for the remaining cards. Obtain latest Federal and State employer tax booklets. Figure sample answers for fixed deductions. Then have students figure their answers from these booklets.
B. Pay Check and Check Stub	Prepare a sample Check and a Check Stub for use on your particular accounting machine. Explain it to the students. Then have them do preparatory work on the remaining Checks and Check Stubs for which the Earnings Record Cards were previously prepared. This consists of filling in the employee name and blank deduction column headings on the Check Stub. These headings will include such things as New York State Income Tax and Hospitalization.
C. Payroll Journal (Fig. 2.1)	Prepare the Payroll Journal together with the class and explain it as you go along. Discuss the purpose of the form and its arrangement. Fill in the headings of the deductions columns. Then fill in all other data.
II. Source Documents	Give various examples of source documents. The posting information has already been prepared on Earnings Record Cards, Piece Rate Sheets, and completed Time Cards, and is simply read from the documents as the operator posts the Payroll. Deductions might have to be looked up when Piece Rate Sheets and completed Time Sheets are the source documents.
A. Time Card	Do a weekly Payroll using the Time Card as the source document. This is the most complete approach to teaching payroll. Explain the format of the Time Card, Fig. 2.2 and how it is used for recording employee attendance and for making a Payroll.

PAYROLL JOURNAL

Previous Earnings	Emp. No., Pay Per.	Hours Worked	Earnings		Earnings to Date	Gross	With. Tax	FICA			Date	Check No.	Amount of Check
			Regular	Over.									

Figure 2.1
PAYROLL JOURNAL
BLANK FORM

Employee's Name Adams, Robert			Regular Earnings	
Employee No. 125	Pay Period 14		Overtime Earnings	
Regular Hourly Rate	2.40		Gross Pay	
			W. Tax	
			FICA	
Overtime Rate	3.60		NYS Tax	
			Hosp.	2.50
Marital Status	M			
No. of Exemptions	3		Net Pay	
Monday	IN	7:59		
	OUT	12:01		
	IN	12:58		
	OUT	4:03		
Tuesday	IN	8:00		
	OUT	12:00		
	IN	12:59		
	OUT	5:32		
Wednesday	IN	7:57		
	OUT	12:02		
	IN	1:01		
	OUT	4:31		
Thursday	IN	7:56		
	OUT	11:59		
	IN	12:58		
	OUT	5:01		
Friday	IN	7:59		
	OUT	12:02		
	IN	12:57		
	OUT	4:01		
Saturday	IN	9:30		
	OUT	10:31		

Figure 2.2
TIME CARD

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
1. Card with times on it	Give each student a Time Card with IN and OUT times on it for each Earnings Record Card completed previously in this section. Have the students fill in the employee name, number, wage rate, marital status, exemptions, and deduction for hospitalization from the Earnings Record Card.
B. Preparation for posting	Demonstrate how daily and weekly hours are computed on an adding or calculating machine. Show how to figure net total hours that the employee will be paid at the regular rate and at the overtime rate. Then complete the time section of the Time Card.
1. Example of daily hours	A sample tape showing how to compute daily hours appears below. Note that IN times are marked with a *minus* and OUT times with a *plus*; 24-hour time is used.
a. Correction factor	When the minute figure of the IN clock reading is greater than the OUT minute figure, a correction factor (-999.40) must be applied. This correction brings the total figure for the day to the correct number of hours and minutes to be credited to the employee.
b. Sample tape	Following is a sample tape of the Monday figures on the Time Card.

Hours (to left of comma)
Minutes (to right of decimal point)

(-)	7,000.59	IN time
(+)	12,000.01	OUT time
(-)	999.40	
(-)	12,000.58	IN time
(+)	16,000.03	OUT time
(-)	999.40	
	7,000.07 *	

(Answer: 7 hours, 7 minutes)

2. Example of weekly hours	A sample tape of weekly hours appears below. The weekly hours worked is the total of all daily hours for the week.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS

a. Sample tape

(+)	7,000.07	Monday
(+)	8,000.33	Tuesday
(+)	7,000.35	Wednesday
(+)	8,000.06	Thursday
(+)	7,000.07	Friday
(+)	1,000.01	Saturday
	38,000.89	Week Total

(Answer: 39 hours and 29 minutes)

b. Rounding formula

The total of the excess minutes worked for the week is usually rounded by a formula. A common formula is the 20-40 Basis as follows.

Total Excess Minutes for the Week	Rounded
1 - 19	0 hours
20 - 39	$\frac{1}{2}$ hour
40 - 59	1 hour

c. Total weekly hours

The total weekly hours for the employee who worked 39 hours and 29 minutes therefore becomes $39\frac{1}{2}$ hours; 35 are regular hours and $4\frac{1}{2}$ are overtime hours.

3. Finishing Time Cards

Have the students compute and fill in the time on the remaining Time Cards. Calculate the following and complete the earnings section of the Time Card.

Regular Earnings
Overtime earnings
Gross earnings
Deductions
Net pay

a. Computing earnings

Use adding or calculating machines to compute earnings (previously covered in Section 1). Show students how to look up the W. Tax, NYST, and FICA deductions in the tax tables.

Attach the adding or calculating machine tape to the back of the Time Card when the latter has been completed.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
C. Entry of Payroll Data	
1. Preparations for posting a. Insertion of forms	Show the students how to insert and aline the Journal in the accounting machine. Have them practice this. Also show them how to insert and aline the Earnings Record Card, Check and Check Stub. Have them do this two or three times.
b. Clearing the machine	Then show them how to clear their machines completely. This will cover clearing of the line-of-entry register and the down-total register. Have them do this two or three times.
c. Setting the date	Show them how to set the date.
III. Problem 1, Basic Posting Procedure	Have the students do this problem. It involves the basic essentials for producing a clear understanding of a Payroll application. Use the Time Cards and other forms prepared previously.
A. Teaching procedure	Have the students go through steps 1 through 5 below. Then dictate 6 through 16 step-by-step for the first employee. (Steps 6 through 16 might be done differently on your particular machine or payroll program.) Many totals-to-date and the loading of formulas for computing certain answers are left out to keep the problem's basics clear. If possible, avoid using a machine that requires loading formulas for computing regular earnings, overtime earnings, or deductions in this problem. This will be covered later.
B. Setting up the forms	1. Arrange the source documents (Time Cards) alphabetically. 2. Arrange the machine forms (Earnings Record Cards and Checks) alphabetically. 3. Insert and aline the Journal. 4. Clear the accounting machine and set the date. 5. Insert the first employee's Earnings Record Card and Check in the machine.
C. Earnings, descriptive information, hours	6. Pick up earnings-to-date from Earnings Record Card. 7. Pick up descriptive information from Time Card: employee number, pay period, and total hours worked for week. 8. Pick up hours worked for week from Time Card. Include regular and overtime hours.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
D. Wage rates, details of earnings	9. Pick up wage rates from Time Card including regular and overtime rates. 10. Pick up regular earnings for week from Time Card. 11. Pick up overtime earnings for week from Time Card. 12. Compute earnings-to-date for year. (Earnings-to-date are computed automatically by the machine.) 13. Compute gross earnings. (On some machines, the previous earnings-to-date has to be picked up again to obtain the gross. Check the gross earnings against amount on the Time Card.
E. Deductions, Check No., net pay	14. Pick up deductions for week from Time Card, including W. Tax, NYST, FICA, and Hosp. 15. Pick up the Check number. The date usually prints automatically with the Check number. Loading Check numbers will be covered later. 16. Compute net pay. The net pay is computed and printed automatically on the Check by the machine.
F. Completion of posting, clearing, and proving	17. Post the remaining Time Cards. Let the students post these after you have directed them through posting the data for the first employee. 18. Clear down-total registers. Remind them to be sure to do this when finished with the last employee. 19. Run a proof tape of all down totals. Point out that the Payroll Journal is the source for the Payroll entry in the main set of bookkeeping records in the company. 20. Check for errors.
G. Correction of error	If the amount of the Check (net pay) is incorrect, the entire entry must be done over. All the amounts that were added or subtracted in the entry must be reversed. If the error is discovered before the net pay prints on the Check, it may be possible to reverse the error and pick up the correct amount or juggle amounts and fix them later.
IV. Problem 2, Basic Posting Procedure	Give students a second set of Time Cards for the same employees and have them do Problem 2. Use pay period 15 for this problem. Follow the same guidelines and procedures that were used in Problem 1, namely: 20-40 time basis, 35-hour week, same wage rates, earnings-to-date from

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	pay period 14, same employees but different IN and OUT times.
A. Preparation for posting	1. Prepare Time Cards for posting as follows: Compute the time. Compute the net pay. Complete the Time Cards. Arrange them alphabetically. 2. Arrange Earning Record Cards alphabetically with new checks. Use Earnings Record Cards from Problem 1.
B. Completion of posting	3. Insert new Journal, clear machine, and set date. 4. Insert first employee's Earnings Record Card and Check. 5. Complete the posting procedure. Follow the posting procedure outlined in Problem 1, steps 10 through 19.
V. Problem 3, Comprehensive Payroll Procedure	This problem should involve as much use of all the capabilities of your machine as possible. Use pay period 16. Give students 6 to 10 additional Time Cards and 2 sick pay and vacation slips.
A. Computing time and net pay	1. Prepare Time Cards, sick pay, and vacation Pay Slips. a. Compute time on Time Cards. b. Compute net pay on Time Cards and Pay Slips. Change the basis for computing time from 20-40 Basis to Quarter-hour Basis. Use pay period 16. c. Use new deductions: union dues, disability insurance, and savings bonds. Fixed deductions are generally used for vacation pay on the Earnings Record Card. Introduce sick pay and how to figure State and Federal taxes. d. Complete Time Cards and Pay Slips and arrange them alphabetically. 2. Arrange Earnings Record Cards alphabetically with new checks.
B. Loading of formulas and other data	3. Insert new Journal, clear machine, and set date. 4. Load in any formulas or other data the machine is capable of using: tax computation, regular and overtime earnings computation, Check numbers. Explain the purpose of loading formulas and data and show how

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	it is done. Keep in mind that steps 1 thrcugh 4 might not be the same on your machine. Also, your machine might not do all of the steps of this problem. 5. Insert the first employee's Earnings Record Card and Check.
C. Pick up totals, descriptive information, special pay	6. Pick up all totals-to-date: Earnings W. Tax NYST FICA Savings bond deduction Sick pay 7. Pick up descriptive information from the Time Card: Employee number Pay period Total hours worked Employee name 8. Pick up vacation pay or sick pay from Pay Slips.
D. Hours and wage rates	9. Pick up hours worked from Time Card including regular and overtime hours worked. 10. Pick up wage rates from Time Card, regular and overtime rates.
E. Earnings	11. Print regular earnings. The machines loaded with a formula will automatically compute this from the information previously picked up in this entry. If not, the earnings will be taken from the Time Cards. 12. Print overtime earnings. 13. Print gross earnings. Gross earnings and earnings-to-date will be computed by the machine automatically. 14. Print earnings-to-date.
F. Deductions	15. Print tax deductions: W. Tax, NYST, FICA. Some machines can be loaded with a formula to compute these taxes automatically. Others will have to be picked up from Time Cards or pay slips. 16. Print other deductions: savings bonds, union dues, hospitalization, disability insurance. Some machines can be loaded with some of this data and will print and subtract automatically. But some information cannot be loaded ahead and will have to be picked up from the Time Cards or Pay Slips.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	Explain how savings bonds, union dues, hospitalization, disability insurance, and other deductions you include in the problem are handled.
G. Check No., net pay, totals-to-date	17. Print Check number, date, and net pay. If the check numbers were loaded ahead of time, these three items will print automatically. Otherwise, all three will be printed when the Check number is picked up. 18. Print totals-to-date. Explain the meaning of totals-to-date and how they are used, particularly with regard to tax reporting. Show how they are eventually used to complete the summary section of the Earnings Record Card. Machines capable of updating various totals will automatically print these totals if the previous totals-to-date were picked up at the beginning of the entry.
H. Completion of posting, clearing, proving	19. Post all the Time Cards for the pay period. 20. Clear the down-total registers. 21. Run a proof tape of all down totals. Error correction, clearing down totals, and proof tape procedures are done basically the same in this problem as in Problems 1 and 2.
VI. Problem 4, Comprehensive Payroll Procedure	Give the students a fourth set of time cards and Pay Slips. Call this pay period 17.
A. Preparation of forms	1. Prepare Time Cards and Pay Slips for employees in Payroll Problems 1, 2, and 3. Compute time for Time Cards. Compute net pay for Time Cards and Pay Slips. Arrange all alphabetically. 2. Arrange Earnings Record Cards alphabetically with new checks. Review what happens to each payroll form or document at the end of each posting and at the end of the year.
B. Loading of formulas, etc., posting	3. Insert new Journal, clear machine, and set date. 4. Load in formulas and fixed data. 5. Insert first employee's Earnings Record Card and Check. 6. Follow posting procedure outlined in steps 6 through 21 of Payroll Problem 3.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
VII. Reporting and Paying Deducted Taxes	Briefly explain and outline the calendar of employer duties for reporting and paying the taxes deducted from employee earnings. The various reports can be photocopied and given to the students as each step in the calendar is explained. Make a chart on the blackboard or on a ditto to show the breakdown of the year in accordance with required dates of tax payments. A similar chart for the State taxes would be helpful. Following is an outline describing the main State and Federal taxes.
A. Federal income tax	1. Federal income tax (W. Tax) a. Deducted each pay period b. Deposited with Federal Reserve Bank monthly c. Paid to Internal Revenue quarterly (941) d. Reconciled annually between employer, Internal Revenue, and employee (W-3, W-2)
B. Social Security	2. Social Security (FICA) a. Deducted each pay period until maximum is reached b. Matched by employer and deposited along with W. Tax monthly c. Paid and reconciled quarterly (941-A)
C. New York State income tax	3. New York State income tax a. Deducted each pay period b. Paid monthly or quarterly to State Tax Department (IT 2101) c. Reconciled annually (IT 2103)

Section 8
Accounts Payable

OBJECTIVES

Upon completion of this section, the student will be able to:

1. Explain the purpose and format of a Creditor's Ledger Card, General Ledger Expense Card, Direct Proof Purchases Journal, Zero Proof Purchases Journal, and Zero Proof Cash Disbursements Journal
2. Open account balances on Creditors' Ledger Cards
3. Demonstrate a working knowledge of the Direct Proof system of posting purchases, returns, and payments for Accounts Payable (optional)
4. Verify extensions on an Invoice from a creditor, code the items on the Invoice by account, group-total the items for posting, and run a Trial Balance of the Invoices to be posted
5. Post creditors' Invoices to a Zero Proof system in which items from the Invoice are posted by group totals for distribution purposes on the Purchases Journal
6. Post creditors' Invoices to a Zero Proof system in which the items will be multiple-posted to the distribution columns on the Purchases Journal
7. Compute the amounts for checks in payment of creditors' Invoices
8. Post cash disbursements and make distributions to a Zero Proof system
9. Compute the amount of credit to be posted when posting in a Cash Disbursements Zero Proof system

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
I. Machine Forms	Tell the students to think about a company that has just purchased accounting machines and needs to set up its records for Accounts Payable.
A. Creditor's Ledger Card	Discuss the purpose, format, and preparation of the creditors' Ledger Card with the students. Have them type the names and addresses of creditors on 6 to 10 Ledger Cards.
B. General Ledger Expense Card (optional)	Some accounting machines allow the operator to post directly to the General Ledger accounts of low activity when posting the creditor's Invoice. If your machine has this feature, explain it and prepare for it now. Initial balances will have to be written on the Cards with a pen and checked with adding machine tape. If proof factors are used, they will have to be figured and written in by hand with a pen also.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	If your machine makes use of this Card, explain the purpose, format, and preparation of it to the students. Have them fill in account name, number, and balance on six Cards.
C. Journal	Two systems of handling accounts are presented in this course, the Direct Proof system and the Zero Proof system. Both are applied primarily to the Journal. Both can be used to update the accounts to which they are applied and both prove out those accounts. In addition, the Zero Proof system breaks down the information in source documents and distributes that information to appropriate places in the records. Generally smaller businesses (with numeric accounting) machines) use the Direct Proof system and medium-sized businesses use the Zero Proof system.
1. Direct Proof system applied to Accounts Payable	For Accounts Payable, the Direct Proof system updates the creditor's account (including charges, returns, and payments) and proves out, but does not provide a breakdown of purchases or Check writing. For teaching Accounts Payable, the Direct Proof system is an excellent system to cover first because it includes only the basics of the problem. In this system a Direct Proof Journal, Fig. 3.1, is used.
2. Zero Proof system applied to Accounts Payable	The Zero Proof system has many versions depending on the make and capacity of the accounting machine used. This section of the course describes the application of that system to charges and payments. For Accounts Payable, the system is applied to the Purchases Zero Proof Journal, Fig. 3.2, and the Cash Disbursements Zero Proof Journal, Fig. 3.3.
a. Columns in Zero Proof Journals	Examples of columns in a Zero Proof Purchases Journal are: Resale, Fixed Assets, Office Expenses, Warehouse Expenses, Code, General Ledger. Examples of columns in a Zero Proof Cash Disbursements Journal are: Bank, Returns, Discount, Freight Adjustment, Code, General Ledger. The headings on the distribution columns of Zero Proof Journals are blank and must be filled in by the Accounts Receivable clerk or Accounts Payable clerk.
II. Entry of Accounts Payable Data	Section 3 outlines general procedures common to all systems used for Accounts Payable. The Direct Proof system is introduced first followed by two applications of the Zero Proof system. This section contains all the essential elements for all makes and models of machine.

DIRECT PROOF JOURNAL
(Used for Charges, Returns, Payments)

Old Balance	Date	Ref.	Debits	Credits	Balance	Proof Pickup	Proof
(+)131.05	Ap 3, 75	1112	(+)40.35		(+)171.40	(-)137.05	(+)40.35*
(+)171.40	Ap 4, 75	1112	2.40DM(-)		(+)169.00	(-)171.40	(-)2.40CR
(+)169.00	Ap 11, 75	265		(-)35.00CH			
				(-) 2.95DS	(+)131.05	(-)169.00	(-)37.95CR

Figure 3.1
DIRECT PROOF JOURNAL

PURCHASES ZERO PROOF JOURNAL

Old Balance	Date	Ref.	Debits	Balance	Proof Pickup	Resale	Fixed Assets	Office Expense	Warehse. Expense	Code	General Ledger	Proof .00
(-)131.05	Ap 3, 75	1175	(+)611.87	(+)742.92	(-)131.05	(-)228.00	(-)230.00	(-)48.00	(-)65.00	407	(+)57.10	
										517	(-)35.97	
										535	(-)32.00	
										541	(-)20.00	
										539	(-)10.00	.00

Figure 3.2
PURCHASES ZERO PROOF JOURNAL

27

CASH DISBURSEMENTS ZERO PROOF JOURNAL

Old Balance	Date	Ref.	Credits	Balance	Proof Pickup	Bank	Returns	Discount	Freight Adjust.	Code	General Ledger	Proof .00
(+)742.92	Ap 10, 75	892	(-)611.87	(+)131.05	(-)742.92	(+)505.44	(+)31.00	(+)14.58	(+)32.00	407	(-) 3.10	
										517	(+) 1.95	
										541	(+)20.00	
										539	(+)10.00	.00

Figure 3.3
CASH DISBURSEMENTS ZERO PROOF JOURNAL

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
A. Preparation for posting	The steps in preparation for posting are:
1. Inserting forms	• Insert and aline Journal, Creditor's Ledger Card, and General Ledger Card (optional).
2. Clearing machine	• Clear the line-of-entry register and the down-total registers.
3. Setting the date	• Set the current date on the machine.
4. Preparing prelist tapes	Depending on the system being used (Direct or Zero Proof, purchases or disbursements) some tapes or figuring might have to be done before actual posting. • Prepare prelist tapes as follows: Verify extensions on Invoices, if necessary. Group items on Invoices and mark the totals. Compute credit for cash disbursements only, if necessary.
5. Preparing Trial Balance tape	• Prepare a Trial Balance tape of the totals of the Invoices or the total credits for end of the problem proof. Post this to the Control Card if necessary.
6. Opening of accounts	• Open an account for each credit. Each creditor's account (Ledger Card) should have an initial balance posted to it before an Invoice is posted. Some might have credit balances. If your machine is capable of performing this operation, do it by machine. If it cannot be done on your machine, then write the initial balances on the cards with a pen and run a tape of these amounts to prove against the total of the Control Card on the old Accounts Payable Ledger. This procedure is the same for Direct and Zero Proof systems.
a. Steps in opening account	The steps in opening an account are: • Insert appropriate journal. • Clear all registers. • Open each creditor's account. • Prove balances. • Open Control Account Card.
B. Direct Proof system posting procedure (optional)	The Direct Proof system posting procedure is optional because your machine might not have the capability of handling a Direct Proof system. However, as pointed out earlier, it is an excellent way to introduce Accounts Payable because it conveys the concept of this application clearly. If this is not possible on your machine, do 6 to 10 postings by hand and prove out with the aid of an adding or calculating machine.
1. Posting charges	

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	If direct proof is possible on your machine, have the students post 6 to 10 invoices. Charges, returns, and payments are each done separately in a Direct Proof system. Two complete sets of postings are suggested if time permits.
a. Steps in posting charges	Following are the steps in posting the charges. (See the Direct Proof Journal, Fig. 3.1, line 1 for an illustration of this posting.) • Verify extensions on invoices. • Arrange Invoices alphabetically. • Run Trial Balance, (prelist) tapes of Invoices. • Arrange Creditors Cards alphabetically. • Insert program or set program for charges (Direct Proof). • Insert Direct Proof Journal. • Set date. • Clear all registers. • Pick up balance of first creditor. • Insert first creditor's Ledger Card. • Pick up date and reference number. • Pick up charge from Invoice. • Print balance (computed automatically). • Pick up original balance of first creditor. • Print charge (automatically) in proof column. • After completing the one posting, post all the rest of the invoices for this problem.
(1) Multiple purchases and credit balances	Multiple purchases are not as common as multiple sales which will be treated later in Accounts Receivable. Credit balances are fairly common in Accounts Payable. They should be mentioned and, if possible, worked into the problems.
(2) Error correction in charges	If your machine has a down-total proof register, clear it at this time and compare the amount to your Trial Balance tape run at the beginning of the problem. If these two totals do not agree, find the errors and correct them. To correct an error: reverse the entire entry, line out the error and error corrections on the Journal and Card, and post the entry over agian. • Now post the total of the Invoices to the Control Card.
2. Posting returns	Purchase returns are posted separately from the Invoices and the payments in a Direct Proof system. The program is set up the same as for charges. The general procedure is the same except that the

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	operator must *subtract* the amount returned, usually in the charges column. This procedure causes the returns to stand out more than if posted in the credits column with the Checks and documents.
a. Steps in posting returns	Following are the steps in the procedure for posting returns of merchandise: • Arrange Return Slips (credit memos) alphabetically. • Arrange Creditors Account Cards alphabetically. • Insert Direct Proof Journal. • Clear all registers. • Pick up balance of first creditor. • Insert first creditor's Ledger Card. • Pick up date and reference. • Pick up amount of return from Return Slip (usually with a code key such as DM or minus). • Print balance (computed automatically). • Pick up original balance of first creditor. • Print dollar amount of the return (automatically) in proof column. • Post all the rest of the returns from this problem. • Clear down-total proof register (Trial Balance). • Post the total of the returns coded as a minus in the charges column of the Control Card.
b. Practice problems	Have the students post 2 complete problems of from 6 to 10 Return Slips. The amount from a Return Slip should print in the proof column in *red* (as minus). (See Direct Proof Journal, Fig. 3.1, line 2 for posting example.)
3. Posting payments	Usually the Accounts Payable clerk will be asked to pull the Invoices to be paid that day, compute any cash discount being offered, and arrive at the amount of the Check to be written. This is an excellent time to teach how to multiply decimals on an adding machine. After completing the Checks, the operator will then post them and the discounts to the creditor accounts. The Check and the discount are posted in the same entry as a multiple posting, each amount separately coded. Errors are corrected the same as done for charges. Again have the students post two complete sets of from 6 to 10 Checks if there is time.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	Also a reminder: If these problems are done on paper (or cards) with an adding machine, the same results will be accomplished as with an accounting machine.
a. Steps in posting payments	The steps for posting payments are as follows: • Compute the amount of the Check and discount for each Invoice. • Total all the Checks and all the discounts for the Control Cards. • Run Trial Balance tape of all Checks and discounts. • Arrange Checks alphabetically • Arrange the creditor's Cards alphabetically. • Change program, if necessary, to stop in credit column. • Insert Direct Proof Journal. • Clear all registers. • Pick up balance of first creditor. • Insert first creditor's Ledger Card. • Pick up date and reference number. • Pick up amount of Check (code CH) and amount of discount (code DS) in the credit column (both negative). • Pick up original balance of first creditor. • Print the sum of the Check and discount (automatically) in the proof column. • Post all the Checks and discounts for this problem. • Clear down-total proof register (Trial Balance). • Post the total of the Checks (coded CH) and the total of the discounts (coded DS) in the credit column of the Control Card. Follow the same steps used in posting to a creditor. The sum of Check and discount should print in proof column in *red* (as minus). (See Direct Proof Journal, Fig. 3.1, lines 3 and 4 for posting example.)
C. Zero Proof system posting procedure 1. Posting charges (purchases) with distribution a. Method I (Group totaling) (1) Verifying extensions on Invoices	Two methods of Zero Proof posting are outlined in Section 3. Two problems should be done for each method. Group-totaling is done in Method I and multiple-posting in Method II. Use either the same Ledger Cards that were used in Direct Proof or open the account balances on new Ledger Cards. • Verify extensions and code the Invoices (Fig. 3.4) for posting. This is usually the Accounts Payable clerk's responsibility.

Delmonte Distributors
11 Orange Street
Akron, Ohio 11403

Received
April 3, 1975

Sold to: Brown Wholesale

April 1, 1975

Terms	Invoice #	P.O. #	Shipped Via	Salesman
3/10,N/30	1175	632A	A.E.	Jones

Quantity	Description	Unit Price	Amount
24	Peas 8 oz Re	4.00	96.00 ✓
36	Corn 12 Oz Re	3.00	~~96.00~~ 108.00 AR ✓
12	Soap Ivory sm Re	2.00	24.00 ✓
5	12' Ladders F.A.	10.00	50.00 ✓
6	20' Steel runners F.A.	30.00	180.00 ✓
24	Corn brooms Wa.Ex.	1.00	24.00 ✓
12	Mops Wa.Ex.	2.00	24.00 ✓
10	Stationery Off.Ex.	5.00	50.00 ✓
5	Envelopes Off.Ex.	3.00	15.00 ✓
			571.00 ✓ AR
	Gross		559.00
	Less: Trade Disc (10%) #407		~~55.90~~ 34.78 AR ✓
	Net Cost Goods		~~503.10~~ 524.90 A.R. ✓
	Plus Taxes (7%) #519		~~35.23~~ 36.74 AR ✓
	Transportation #535		32.00
	Commission #541		20.00
	Advertising #539		10.00
	Net		~~600.32~~ 611.89 AR ✓

Re: 228.00
FA. = 230.00
Wa.Ex: 48.00
Off.Ex = 60.00

Figure 3.4
SAMPLE INVOICE

The sample Invoice above has been verified, coded, and grouped. A check mark next to an extension means that the accuracy of the amount has been verified. If a figure has a line through it, it is wrong and the correct amount has been written above. (The extensions can be verified on an adding machine by using the stepover method, or by using a calculator.)

Totals are written in the circle at lower left for ease of posting. All tapes run on an Invoice for verifying or grouping should be attached to the back of it. Invoices obtained from local businessses can be quite useful in the classroom. Following are explanations of other codes used on the Invoice above::

407,517, etc. General Ledger Account numbers for posting miscellaneous items

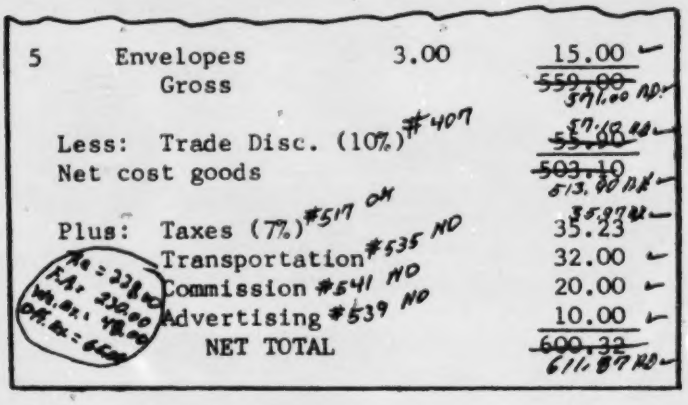
F.A. Fixed asset
Re Item to be resold
Off.Ex. Office expense
Wa.Ex. Warehouse expense

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
(2) Trial Balance tape of Invoices	• Run a trial balance tape of Invoices.
(3) Coding of Invoice items	• Code the items purchased on each Invoice according to their use by the business as either Resale, Fixed Assets, Office Expenses, or Warehouse Expenses. • Code the General Ledger miscellaneous items on each Invoice according to their General Ledger account number as either: Trade Discount (407), Sales Taxes (517), Commission (521), or Transportation (525). (See the sample Invoice, Fig. 3.4, in which items have been verified, coded, and grouped.)
(4) Group-totaling of Invoice items	• Prepare a tape of the group totals for each code. Note the group totals on the *front* of the Invoice and attach the tape to the *back* of the Invoice. This procedure is optional because it varies among businesses.
(a) Practice problems	Have the students prepare and post 2 problems of 6 to 10 Invoices each after the procedure of Method I (above) has been covered. The explanation for this section will follow that of the Purchases Zero Proof Journal as the best explanation of all systems.
(5) Posting of purchases	The posting of an Invoice for a purchase in a Zero Proof system follows the same steps as for the Direct Proof system, until the distribution columns are reached. At this point, the line-of-entry register contains the amount of the charge as a plus amount. This register then simply minuses the items that comprise the charge on the Invoice down to zero. Some accounting machines will pick up the old balances (both) in blind columns. Some machines will lay out the columns differently than these, but all perform essentially the same tasks and in the same order.
(6) Steps in posting purchases (a) Preparatory steps	The steps in the procedure of posting Invoices are as follows: • Arrange Invoices alphabetically. • Arrange creditors' Cards alphabetically. • Insert program or set program for Purchases Zero Proof. • Insert Purchases Zero Proof Journal. • Set the date.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
(b) Clearing the machine	• Clear *all* registers (totals).
(c) Posting to the creditor's account and the Journal	• Pick up balance of first creditor. • Insert first creditor's Ledger Card. • Pick up data and reference number. • Pick up net charge from Invoice. • Print balance (computed automatically). • Pick up original balance of first creditor.
(d) Posting to the distribution columns of the Journal	• Pick up total resale noted on Invoice. • Pick up total Fixed Assets. • Pick up total Warehouse Expenses. • Pick up total Office Expenses.
(e) Posting to the General Ledger columns of the Journal	• Pick up code number of first General Ledger item (key selection). • Index amount of first General Ledger item. (If subtracted on the Invoice, push the reverse button with return button if more is to be posted.) • Repeat previous two steps until all General Ledger amounts have been posted. On final amount don't use return button; let machine go through to proof column. • Print zeros (automatically) in proof column. After the final General Ledger account is done, the machine should automatically print *.00* in the proof column if everything is correct. See Purchases Zero Proof Journal, Fig. 3.2, for an illustration of posting the sample Invoice.
(f) Posting of the rest of the Invoices	• Now post all the rest of the Invoices for this problem.
(g) Error correction	The general rules for correcting errors on most machines are: • If the error is in the distribution column, reverse the entry, pick up the correct amount and either motor-bar it out or continue with the entry. • If the error is in the balance, charges, or second balance columns, reverse everything and post the entire entry over again. Each make or model of machine has its own degree of versatility in correcting errors. Some machines, for example, will allow you to correct the errors in the balance and charges columns without having to correct the distribution columns. If your machine has a limited number of registers, you can obtain these down-totals for all distribution

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	items and General Ledger accounts by running tapes on an adding or calculating machine. Depending on the capacity of your machine, it might be possible to get down-totals for each code. The total of the Invoices is the Trial Balance total (run at the beginning of this problem) of all the Invoices.
(7) Clearing of all down-total registers	• Clear all the down-total registers to obtain: One down-total which should match the Trial Balance tape, A down total in each distributuion column, and A down-total for each code.
(8) Posting to the Control Card	• Post the total of all the Invoices to the Control Card and also post the down-totals of the distribution columns. (This will give you zero proof (.00) at the end of the control posting.)
b. Method II (Posting without group-totaling)	Items for distribution on the Invoices are not grouped in Method II. The operator will multiple-post the distribution items in the distribution columns when posting, by using the vertical return button on item amounts that have more of the same to follow. For Method II, use the same program as in Method I including the Purchases Zero Proof Journal. Two problems should be done for Method II. Following are the steps in the procedure:
(1) Verifying extensions on Invoices	• Verify the extensions on the Invoices as in Method I.
(2) Trial Balance tape of Invoices	• Run a Trial Balance tape of net totals on the Invoices.
(3) Coding of Invoice items	• Code Invoices as in Method I.
(4) Steps in posting Invoices	• Arrange invoices alphabetically. • Arrange creditors' Cards alphabetically • Insert Purchases Zero Proof Journal.
(a) Clearing the machine	• Clear all registers.
(b) Posting to the creditor's account and the Journal	• Pick up balance of first creditor. • Insert first creditor's Ledger Cards. • Pick up data and reference number. • Pick up net charge from Invoice. • Print balance (computed automatically). • Pick up original balance of first creditor.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
(c) Posting to the distribution columns of the Journal	• Index and post resale items. (This differs from Method I.)
	Index the amount of one resale item from the Invoice and if there is another resale item, press the vertical return button to activate the first resale amount. This stops the machine from going to the next column and allows the operator to pick up another resale amount in that column. Repeat this procedure until the last resale item is picked up. On the last resale item don't use the vertical return bar, just activate the amount and allow the machine to go to the next column. Roll the Journal back to the top line of this entry.
	• Post Fixed Assets, Warehouse Expenses, and Office Expenses as explained above for resale items.
(d) Posting to the General Ledger columns of the Journal	• Pick up General Ledger codes and amounts, using the same procedure as in Method I. • Print zeros (automatically) in proof columns. • Now post all the remaining Invoices for this problem.
(e) Error corrections	• Make error corrections as in Method I.
(5) Clearing of down-total registers	• Clear all the down-total registers as in Method I.
(6) Posting to the Control Card	• Post the Control Card as in Method I.
2. Posting credits (cash disbursements) with distribution a. Preparation for posting	Pay the Invoices posted in the previous section. Use the same Ledger Cards (creditors) and prepare some Return Memos for the previous memos. Approve and disapprove different expenses on the Invoices by noting OK or NO as coming from the boss. (See Excerpt from Invoice, Fig. 3.5.)
	Explain filing procedures for Invoices with terms, and the company policy for pulling Invoices for payments in time to take a cash discount.
(1) Computing of payment amount	Following are the steps in determining the payment amount: • Pull Invoices to be paid today from the files. • Pull purchase returns for above Invoices. • Obtain approval for payment of expenses. (See Fig. 3.5.)



5	Envelopes	3.00	15.00
	Gross		559.00
	Less: Trade Disc. (10%) #407		55.90
	Net cost goods		503.10
	Plus: Taxes (7%) #517 OK		35.23
	Transportation #535 NO		32.00
	Commission #541 NO		20.00
	Advertising #539 NO		10.00
	NET TOTAL		600.32

Figure 3.5
EXCERPT FROM INVOICE

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	Compute Check amounts to pay Invoices following these steps: (Use an adding machine or calculator).
(a) Recomputing trade discount and taxes	• Subtract returns from gross total of the Invoice. • Find the difference between the original trade discount and the recomputed discount (discount disallowed). Add the discount disallowed to obtain new net cost of goods. Recompute the taxes on the new net cost of goods and find the difference between the original taxes and the recomputed taxes. Compute each discount and the difference in recomputed taxes from the new net cost of goods. • Add all approved expenses to arrive at net amount of Check.
(b) Check stubs, etc.	Once the amount of the Check has been computed, have the students fill out the Check Stubs, remittance advices, and Checks. There are various methods of arriving at the amount of the Check. The problem you give the students should be more complicated than usual to cover all aspects of this topic.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	The following is optional. See the teaching suggestions in the last two paragraphs of page 40.
(2) Computing amount of credit	• Compute credit to be posted to each account. Add the amounts of the Check, returns, cash discount, disapprovals, and the difference in the taxes,and subtract the discount disallowed.
	(The net total of these amounts is the credit to be posted to the creditor's account. This amount should equal the net on the Invoice also.)
	• Label the tape of credits for each Invoice for posting. (This practice is optional. Businesses use various methods for this operation.)
	The labels to apply are shown here following the items: The amount of check = BANK The amount of returns = RETURNS The amount of cash discount = DISCOUNT The amount of disapprovals: Transportation = FREIGHT ADJUSTMENT Commission = #541 Advertising = #539 Discount disallowed = #407 Taxes = #517
	After labeling this tape for posting, attach both the tape of the Check and tape of credits to the Check Stub.
	Once the Check has been computed and the Check forms completed, explain that the amount of the Check is not the only credit your company should receive. Point out that in posting to a creditor's account you post only one amount in the credit column and this amount should be the sum of all the credits to which your business is entitled on that Invoice.
(3) Run Trial Balance tape of all the credits.	On some machines the total of all the credits for each Invoice is needed before posting. Therefore, all the items for which your company should receive credit should be added.
b. Posting credits	Four problems of 6 to 10 Checks each should be prepared and posted following these steps. The posting of the credits (as a single total credit) to a Cash Disbursements Zero Proof system follows the same steps as the Direct Proof system (except

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	that only one amount is posted in the credit column) until the distribution columns are reached. At this point, the line-of-entry register contains the amount of the credit as a minus amount. This register simply adds the items that will balance against the credit amount and produce a zero balance. Advise your students to post only the amounts on the tape of credit and they will not get confused and make errors. Some machines will pick up the old balances in blind columns and some will lay out the columns differently. However, all must perform the same tasks. For example, some machines might do the distribution first and then the account. See teaching suggestions in the last two paragraphs of this section. Following are the steps for posting credits:
(1) Posting individual accounts	• Arrange the Check stubs alphabetically. • Arrange the creditors' Cards alphabetically. • Insert program or set program for cash disbursements zero proof on the accounting machine. • Insert Cash Disbursements Zero Proof Journal, Fig. 3.3. • Set the date.
(a) Clearing the machine	• Clear all the registers (totals).
(b) Posting to the creditor's account and the Journal	• Pick up balance of first creditor. • Insert first creditor's Ledger Card. • Pick up data and reference number. Date Check sent and Check number) • Pick up *total credit* due on the first creditor. • Print balance (computed automatically). • Pick up original balance of first creditor.
(c) Posting to the distribution columns of the Journal	• Pick up the amount of the Check in BANK. • Pick up the amount of the returns in RETURNS. • Pick up the amount of the cash discount in DISCOUNT. • Pick up the amount of any transportation to be credited in a distribution column called FREIGHT ADJUSTMENT.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	Freight, Commission, Advertising and other expenses not being paid for are adjustments. Freight Adjustments are very common and therefore are given a special column. Commission and Advertising are not common and therefore go in the General Ledger.
(d) Posting to the General Ledger columns of the Journal	• Pick up the code number of the first General Ledger item. This is called *key selection*. • Index the amount of first General Ledger item. (Reverse the amount if it is subtracted on the tape of credits and activate with return button if more is to be posted. Don't use the return button on the last General Ledger account; let the machine go through to the Zero Proof column.) • Print zeros (automatically) in proof column.
	After the General Ledger account is done, the machine should automatically print *(.00)* in the proof column if everything is correct. See Cash Disbursement Zero Proof Journal, Fig. 3.3 for an illustration of posting credits for the same Invoice. • Post the credit and distribute the credit for each of the other Invoices being paid in this problem.
(e) Making error corrections	Error correction and Trial Balance procedures are the same as explained in the Purchases Zero Proof section.
(2) Obtaining down totals (3) Posting Control Card	• Clear all the down-total registers (Trial Balance). • Post the total of all the credits to the Control Card.
	Follow the same procedure that you did in posting an individual creditor's credit. This will result in a zero proof (.00) at the end of the Control Card also.
	Finally, there are some machines for which you do not need the tape of credit total because you will pick up the individual items of credit (distribution columns) first. They add together automatically in the machine and subtract (and print) as one credit when the credit column is reached.
	The format of having the credit column first was chosen for this outline because it has more possibilities that your students might encounter. Also it brings out the single-total concept better.

Section 4
Accounts Receivable

OBJECTIVES

Upon completion of this section, the student will be able to:

1. Demonstrate knowledge of the purpose and format of a customer's Ledger, Customer Statement, Direct Proof Sales Journal, Zero Proof Sales Journal, and Zero Proof Cash Receipts Journal
2. Open account balances on customers' Ledger Cards
3. Exhibit a working knowledge of the Direct Proof system of posting sales, returns, and cash receipts for Accounts Receivable (optional)
4. Code items for distribution when posted on the Sales Journal
5. Post customers' Invoices to a Zero Proof Sales Journal using the group-total method of posting
6. Post customers' Invoices to a Zero Proof Sales Journal with distribution columns using the multiple-posting method of posting
7. Compute the amount of credit to be posted when posting on a Cash Receipts Zero Proof system
8. Post cash receipts to a Zero Proof Cash Receipts Journal with distribution columns

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
I. Machine Forms to be Used	The main forms to be used in this section are the Customer Ledger Card, the Customer Statement, and the Journal. Discuss the purpose, format, and preparation of each of these.
A. Customer Ledger Card	By now the students should be able to insert a Journal form into the accounting machine. They should also be able to aline the Ledger guides. If they practice holding the Statement on the Ledger Card and inserting both together a few times, they will master the procedure.
B. Student skill at this point	They should begin to see that clearing an accounting machine is basically the same for all problems and all machines. They should be able to clear the machine for the problems in this section after only a brief explanation from you. They should know that the date must be set before posting. Also, they should know what if any, prelist tapes should be run, and that the Trial Balance tape is especially important.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
II. Entry of Accounts Receivable Data	In this section the entry of data for Accounts Receivable will be covered in relation to a Direct Proof system and in relation to two Zero Proof systems. Procedures common to all systems will be presented first. Procedures for the Direct Proof system (which is optional in this course) will then be presented. Following that, procedures for the two Zero Proof systems will be covered. The following explains the Sales Zero Proof Journal (Fig. 4.1) and other Journals. This procedure follows that for Cash Disbursements Zero Proof Journal, Fig. 3.3.
III. Preparation for Posting (General, for all systems)	The same approach that was used for Accounts Payable in Section 3 should be used here for Accounts Receivable. Briefly explain the difference between Accounts Receivable and Accounts Payable.
A. Opening of accounts by machine, if possible	If the account balances can be opened on the machine available, show the students how to do it. If the accounts cannot be opened on your machine, write the balances in with a pen on the Statement and Ledger Card and run an adding machine tape of these balances to prove against a control figure. If the company does an age analysis each month, the new Statement and balance would be opened by machine as part of the age analysis work.
B. Problems to include for 6 to 10 customers	Prepare Statements and Ledger Cards for 6 to 10 customers for the problems that will be done in this section. After explaining the Journal that will be used, open the account balances by machine or by hand. Include some credit balances. If verification factors are needed for the Ledger Cards, they will have to be computed and recorded on the Ledger Cards at this time also.
C. Other preparation	Type names and addresses on Statements and Cards. Also fill in blank distributions column headings on the Zero Proof Journals.
D. Specific steps in preparation for posting 1. Insertion and alinement of forms 2. Clearing the machine 3. Setting the date 4. Prelisting of tapes	The steps in preparation for posting are: • Insert and aline the Journal, the Statement, and the customer's Ledger Card. • Clear the line-of-entry register and the down-total registers. • Set the date. • Prepare prelist tapes as follows: Group items on sales slips. Compute credits (if necessary, for cash receipts only).

The format for a Direct Proof Journal in Accounts *Receivable* is identical to the format for Direct Proof Journal illustrated in the Accounts *Payable* section of this syllabus. See Fig. 3.1.

SALES ZERO PROOF JOURNAL

Old Balance	Date/Ref.	Drs.	Balance	Proof Pickup	Dept. I	Dept. II	Dept. III	Dept. IV	Code	General Ledger	Proof .00

Figure 4.1
SALES ZERO PROOF JOURNAL

The format for a Cash Receipts Zero Proof Journal in Accounts Receivable is identical to the format for a Cash Disbursement Journal (Zero Proof) illustrated in the Accounts Payable section of this syllabus. See Fig. 3.3.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
5. Opening of account balances	• If the account balances are not already open, open them now before posting any sales or receipts. The suggested methods and techniques are identical to those in Accounts Payable. Explain that this time you will also insert a Customer Statement with the Ledger Card. Include some credit balances. The steps in opening the accounts are: • Insert appropriate Journal. • Clear all registers. • Open each customer account. • Take a Trial Balance (prove). • Open Control Card account.
IV. Direct Proof System Posting Procedures (optional) A. Posting charges	A Direct Proof system for Accounts Receivable is very popular on the small numeric accounting machines. For your purposes, it is a good way to introduce Accounts Receivable, but it is optional. The system is almost identical to Accounts Payable, but the Accounts Receivable clerk will seldom verify extensions on Invoices as the Accounts Payable clerk does. Also, in Accounts Receivable, a Statement is used — a form that is not used in Accounts Payable. Finally, in Accounts Receivable, the Checks received have already been computed by the customers as opposed to Accounts Payable where the discount and the amount to be paid are computed before posting.
1. Problem assignments	Assigning two problems of each type in Direct Proof (sales, returns, Checks and discounts) would be good. Include some multiple sales and some credit balance accounts. Again, if it is not possible to post a Direct Proof system on your machine, do 6 to 10 postings on paper with an adding machine. Even though a monthly Statement (to be sent to the customer) is used with the customer Ledger Card, *no* statement is used with the Control Card.
2. Steps in posting charges a. Preliminary steps	Following are the steps in posting charges: • Arrange Invoices alphabetically. • Run Trial Balance tape of Invoices. • Arrange customer Statements and Ledger Cards alphabetically. • Insert program or set program for charges direct proof.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
b. Inserting of Journal	• Insert Journal (Direct Proof), Fig. 3.1. • Set the date. • Clear all registers. • Pick up the balance of the first customer.
c. Inserting of Statement and Ledger Card	• Insert the first customer's Statement and Ledger Card. • Pick up date and reference number. • Pick up charge from Sales Slip. • Print balance (computed automatically). • Pick up original balance of first customer. • Charge from Sales Slip should *print* in proof (automatically).
d. Posting the rest of the Sales Slips	• Post all the rest of the Sales Slips for the problem. • Clear the down-total proof register (Trial Balance). • Post the Control Card.
3. Error correction	Errors are corrected the same way as in Accounts Payable Direct Proof.
B. Posting sales returns	The program for posting sales returns is the same as for charges. Also the procedure for posting *purchase* returns explained for Accounts Payable in a Direct Proof system (see p.29 in Section 3) are applicable here with some differences. The differences are (1) that sales returns are *cm minus* and purchase returns are *dm minus*, and (2) the Statement is used with Accounts Payable but not with Accounts Receivable. Otherwise the posting of sale returns and purchase returns in a Direct Proof system are identical.
1. Steps in posting returns a. Preliminary steps	Following are the steps in the procedure for posting returns: • Arrange Credit Memos (Returns Slips) alphabetically. • Run a Trial Balance tape of all the returns. • Arrange Customer Statements and Ledger Cards alphabetically.
b. Inserting of Journal	• Insert the Direct Proof Journal, Fig. 3.1. • Set the date. • Clear all registers. • Pick up balance of first customer.
c. Inserting of Statement and Ledger Card	• Insert first customer's Statement and Ledger Card. • Pick up date and reference number.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	• Pick up dollar amount of the return as a *cm* and enter it as a negative amount in the charges column. • Print balance (computed automatically). • Pick up original balance of first customer. • Print return amount (automatically) in proof column.
d. Posting of the rest of the returns	• Post all the rest of the returns for this problem. • Clear the down-total proof register (Trial Balance). • Post the total of the returns coded *cm* as a negative amount in the charges column of the Control Card.
	The amount from Return Slip should print in proof column in red as a minus amount. Point out particularly to those who have studied the accounting theory of Accounts Receivable and Accounts Payable, that the machines cannot distinguish between debits and credits, they can only add and subtract.
2. Error correction	Errors are corrected here the same as errors for charges.
C. Posting receipts	The Check received as a payment is coming from a customer who has already figured the amount of the discount and the amount of the Check. Therefore it will be necessary only to verify that he was entitled to the discount and to check his arithmetic. The Check will usually be posted even if it is in error so it can be deposited. Each company will have its own policy about this. The procedures for payments in Accounts Payable Direct Proof are applicable here except for the computation of the discount and Check.
1. Steps in posting receipts a. Preliminary steps	The steps for posting payments received are as follows: • Arrange all of the Checks alphabetically. • Run a tape of all the Checks and a tape of all the discounts taken. (These two totals will be posted to the Control Card later.) • Run a Trial Balance tape adding together the total of the Checks and the total of the documents. • Arrange the Customer Statements and Ledger Cards alphabetically. • Change the program, if necessary, to stop in the credit column.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
b. Inserting of Journal	• Insert Direct Proof Journal, Fig. 3.1. • Clear all registers. • Pick up balance of first customer.
c. Inserting of Statement and Ledger Card	• Insert first customer's Statement and Ledger Card. • Pick up date and reference number. • Pick up amount of Check (code CH) and amount of discount (code DS) in the credit column. • Print balance (computed automatically). • Pick up original balance of first customer. • Print sum of Check and discount (automatically) in the proof column.
d. Posting the rest of the receipts	• Post all the rest of the Checks and discounts for this problem. • Clear the down-total proof register (called Trial Balance). • Post the total of the Checks (code CH) and the total of the discounts (code DS) in the credit column of the Control Card. The sum of Check and discount should print in proof in red as a minus amount.
2. Error correction	• Correct errors the same way as done for charges.
V. Zero Proof System Posting Procedures	
A. Posting charges (sales) with distribution 1. Method I (Posting with group-totaling)	To open new accounts use the same cards as used for Direct Proof. This explanation will follow that for the Sales Zero Proof Journal (Fig. 4.1) as the best explanation of all sales Zero Proof systems. For Method I, do two problems involving approximately six Invoices preferably with group-totaling. (Multiple-posting the sales by departments in the distribution columns can be covered later, in the third and fourth problems of Method II.) Remind the students that the extensions usually are *not* verified by the Accounts Receivable clerk. Therefore you are not asking the students to verify them.
a. Coding Invoices	The steps in the procedure for coding Invoices are as follows: • Code the items sold on each Invoice by department. • Code the General Ledger miscellaneous items.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	See sample Invoice, Fig. 4.2, as an illustration of coding by department and by General Ledger account number.
b. Group-totaling of Invoice items	• On each Invoice group-total the various items on a tape by department number. The total of all sales for all departments should equal the gross total, for any given Invoice. Note the group totals on the front of each Invoice and attach the tape to the back of it. See the sample Invoice.
c. Trial Balance tape	Run a Trial Balance tape of the net amounts of the Invoices.
d. Steps in the posting procedures	The steps in the procedure for posting Invoices are as follows:
(1) Preliminary steps	• Arrange Invoices alphabetically. • Arrange the Customer Statements and Ledger Cards alphabetically. • Insert program or set program for Sales Zero Proof. • Insert the Sales Zero Proof Journal, (Fig. 4.1). • Set the date.
(2) Clearing the machine	• Clear all registers (totals).
(3) Posting to customer's account and Journal	• Pick up balance of first customer. • Insert first customer's Statement and Ledger Card. • Pick up date and reference number. • Pick up net charge from Invoice. • Print balance (computed automatically). • Pick up original balance of first customer.
(4) Posting to distribution	• Pick up group total for Department I noted on Invoice. • Pick up group total for Department II noted on Invoice. • Pick up group total for Department III. • Pick up group total for Department IV.
(5) Posting to the General Ledger columns of Journal	• Pick up code number of first General Ledger item. • Pick up amount of first General Ledger item. (Reverse if subtracted on Invoice and activate with return button if more are to be posted.) • Repeat two previous steps concerning General Ledger accounts until all General Ledger amounts have been posted. • Print zeros (automatically) in proof column.

ABC Company
21 Holt Street
Boston, MA 02140

Sold to: Kings Furniture — May 3, 1975

Terms	Invoice #	P.O. #	Shipped Via	Salesman
3/10	401	625	A.E.	JCB

Quantity	Description	Unit Price	Amount
3	Beds #108A I	250.00	750.00
3	Dressers #108B I	150.00	450.00
3	Tables #108C I	50.00	150.00
2	Dining Tables #86A II	300.00	600.00
8	Dining Chairs #86B II	75.00	600.00
5	Sofas #616A III	400.00	2000.00
10	Chairs #616B III	150.00	1500.00
3	Desk #541T III	100.00	300.00
	Gross		6,350.00
	Less: Trade Disc (10%) #509		635.00
	Net Cost Goods		5,715.00
	Plus Taxes #575		250.00
	Transportation #569		150.00
	Commission #431		100.00
	NET		6,215.00

Dpt.
I = 3350.00
II = 1,200.00
III = 2,500.00
IV = 300.00

Figure 4.2
SAMPLE SALES INVOICE

The sample Sales Invoice above has been verified, coded, and grouped. (The extensions can be verified on an adding machine using the stepover method or by using a calculator.) Invoices (similar to the one above) obtained from local businesses can be very helpful as examples of those in use.

Totals for each of the four departments are written in the circle at lower left for ease of posting in the department distribution columns (for Method I). The tapes for grouping the sales by department should be attached to the back of the Invoice.

The Roman numerals show the sales departments responsible for the items. The General Ledger account numbers (509, 575, 569, and 431) are used for posting the miscellaneous items.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	On last General Ledger amount don't use return button but let the machine go through to the zero proof column. After last General Ledger account is done, machine should automatically print .*00* in proof column if everything is correct.
	The teaching suggestions for Purchases Zero Proof Journal concerning error correction, Trial Balance, down totals, and Control Card (see section 3) also apply here for Sales Zero Proof.
	• Post all the rest of the Invoices for the problem.
e. Obtaining down totals	• Clear all the down-total registers (Trial Balance). (One down total should match the Trial Balance tape.) Each department distribution column should have a down total. Depending on the capacity of the machine, it might be possible to obtain down totals from the machine for each code.
f. Posting the Control Card	• Post the Trial Balance down total to the Control Card, the department column down totals to the distribution columns of the Journal, and the code down totals to the General Ledger accounts column. You will arrive at zero for this entry in the proof column.
	Compare the steps in Purchases Zero Proof and Sales Zero Proof to demonstrate that they are basically the same. This does not mean that doing one will qualify you to do the other without practice. You should have the students practice Sales Zero Proof even though there are many similarities to the Purchases Zero Proof system. Actually doing Sales Zero Proof as well as Purchases Zero Proof builds confidence in the students that they can do both.
2. Method II (Posting without group-totaling)	Method II for Sales Zero Proof follows the same idea as Method II for Purchases Zero Proof (see section 3). Code the Invoices but do not group-total the departments on each Invoice. Instead, when the department distribution columns are reached while posting, *multiple*-post the sales of each department in the distribution columns.
	Do two problems including approximately six invoices for Method II. Use the same program as in Method I.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
a. Coding Invoices	• Code Invoices by department and General Ledger account numbers.
b. Trial Balance tape	• Run a Trial Balance tape of the Invoice net amounts.
c. Steps in posting an Invoice	The steps in the posting of Invoices are as follows: • Arrange Invoices alphabetically. • Arrange Customer Statements and Ledger Cards alphabetically. • Insert Sales Zero Proof Journal, Fig. 4.1. • Set the date.
(1) Clearing the machine	• Clear all the registers.
(2) Posting to customer's account and Journal	• Pick up balance of first customer. • Insert first customer's Statement and Ledger Card. • Pick up date and reference number. • Pick up net charge from Invoice. • Print balance (computed automatically). • Pick up original balance of first customer.
(3) Posting to distribution column of Journal	• Multiple-post sales for Department I. • Multiple-post sales for Departments II, III, and IV.
(4) Posting to General Ledger columns of Journal	• Pick up General Ledger codes and amounts. • Print zeros (automatically) in proof column.
(5) Error correction	Errors are corrected the same way as in Method I. • Post all the rest of the Invoices for this problem.
d. Obtaining down totals	• Clear the down-total register (Trial Balance).
e. Posting Control Card	• Post the Control Card. (The Trial Balance and Control Card are done as in Method I.)
B. Posting credits (cash receipts) with distribution	• Post the credits. The Checks and Remittance Slips now to be posted should be those in payment of Invoices previously posted. Return Slips and remittance advices will have to be prepared for the Invoices posted in the previous section. Use the Statements and Ledger Cards from the section on posting charges in Accounts Receivable. Explain how to verify the computation of the Check with the aid of the customer's Remittance Slip. Point out that the Accounts Receivable clerk might be responsible for doing this, but often someone else in the company will do it.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
1. Preparation for posting	Four problems of 6 to 10 remittance advices should be prepared and posted following these steps.
a. Computing credits to be posted	Following are the steps in preparing for posting credits: • Arrange the remittance advices and Checks to be posted alphabetically. • Pull the Invoices to be paid from the files. • Obtain approval for discrepancies between the Invoice and Remittance Slip figures. • Pull any sales returns (credit memos) connected with Invoices to be paid.
(1) Tape of credits	• Add: The amount of the Check, The amount of the returns, The amount of the discount, and The approvals on the remittance advice. Use an adding or calculating machine to compute the total credit to be posted to each customer's account. The total of these amounts is the credit to be posted to the customer's account later. On some machines, the total credit will be posted automatically by the picking up of the amounts that make up the credit in the distribution columns. In that case a total credit tape need not be run.
(2) Labeling the tape of credits	• Label this tape of credit for posting as follows: The amount of the check = Bank The amount of the returns = Returns The amount of the discount = Discount The approvals: Transportation = Freight Adjustment Any other approval adjustments: use the General Ledger account number Attach the tape of credit to the remittance advice.
b. Trial Balance tape	• Run a Trial Balance tape of all the credits for the same reasons that you did in cash disbursements.
2. Posting credits	Again, as for Cash Disbursements Zero Proof, only one amount — the total credit due a customer — is posted in the credit column of the Statement and Ledger Card. The amounts that make up that credit are posted in the distribution columns. Therefore, label the tape of credits carefully.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	Have the students post *only* the amounts on that tape with the exception of the old balance and possible verification factors from the Ledger Card. Depending on the make and model of machine, the arrangement and order of picking up the various amounts may differ. Basically, however, what has to be done on *all* machines is illustrated in this material. This outline explains the format for the Cash Receipts Zero Proof Journal.
a. Steps for posting credits	Following are the steps for posting credits:
(1) Preliminary steps	• Arrange the Customer Statements and Cards alphabetically. • Insert the program or set the program for Cash Receipts Zero Proof on the accounting machine. • Insert the Cash Receipts Zero Proof Journal form which is similar to the Cash Disbursements Zero Proof Journal, Fig. 3.3. • Set the date.
(2) Clearing of machine	• Clear all the registers (totals).
(3) Posting to the customer account and the Journal	• Pick up the balance of the first customer. • Insert the first customer's Statement and Ledger Card. • Pick up the date and reference number. • Pick up total credit due the first customer. • Print balance (computed automatically). • Pick up original balance of first customer.
(4) Posting to the distribution columns of the Journal	• Pick up the amount of the Check in the Bank column. • Pick up the amount of the returns in the Returns column. • Pick up the amount of the cash discount in the Discount column. • Pick up the amount of any transportation to be credited in a distribution column called Freight Adjustment.
(5) Posting to the General Ledger accounts of the Journal	• Pick up the code number of any General Ledger amounts to be posted. • Index amount of first General Ledger item.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	Reverse this if it is subtracted on the tape of credit and activate with return button if more is to be posted. • Repeat the two previous steps concerning General Ledger accounts until all General Ledger amounts have been posted. • Print zeros (automatically) in the proof column. On the last General Ledger account amount don't use the return button; let the machine go through to the zero proof column. After the last General Ledger account is done, the machine should automatically print zeros in the proof column if everything is correct.
(6) Error corrections	• Correct the same way as zero proof charges for either purchases or sales. • Post the credit and distribute the credit for each of the other customers from whom a check was received.
3. Obtaining down totals	• Clear down-total registers (Trial Balance). (This Trial Balance procedure is the same as for the Zero Proof system for purchases in Section 3).
4. Posting to the Control Card	• Post the total of *all* the credits to the Control Card, the down totals of the distribution columns to the Journal, and the code down totals to the General Ledger accounts. You should arrive at zero in the proof column for this entry as before.

Section 5
Billing

OBJECTIVES

Upon completion of this section, the student will be able to:

1. Prepare invoices on an accounting machine (optional)
2. Perform a bill and post application on an accounting machine (optional)

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
I. Machine Forms	This section of the course is optional. Whether or not you include it depends on the amount of time available. Billing can be a separate operation or can be coupled with posting to customers' accounts. Billing alone will be covered here. Billing and posting in combination will be explained afterward. Source documents are customers' Purchase Order, Salesmen's Orders, and Telephone Orders. We suggest that you use 6 to 10 Invoices for this problem if there is time and if the proper programs are available.
A. Customer Invoice	Usually the blank Invoices come preprinted on a large roll that can be inserted in the machine.
B. Customer Monthly Statement, Ledger Card, and Journal	When billing and posting are combined, the Statement, Ledger Card, and Journal described for the Direct Proof system are used. (See section 4, Accounts Receivable.)
II. Entry of Billing Data	
A. Preparation for posting	The steps in preparing for billing are: • Arrange source documents alphabetically. • Insert roll of Invoices into machine. • Insert program and constants (if any) for billing. • Set the date(s).
B. Billing 1. Clearing the machine	The steps in billing are: • Clear all registers.
2. Typing Invoice information	• Type the name and address of the first customer on the first Invoice.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	• Type all of the other pertinent data on the Invoice heading. This includes: Data shipped Customer account number Terms Invoice number Purchase Order number Shipped via Salesman's name.
	Some of the pertinent data can be entered automatically depending on the capacity of your machine. This might include dates, Invoice numbers, and terms. When billing is done alone, the posting to the customer's statement and Card would be done later in a separate operation.
3. Extension computation for merchanidse sold	• Pick up the quantity of the first item sold. • Type in the description of the first item. • Pick up the unit price of the first item. • Print extensions (computed automatically).
	Billing is basically the mathematical preparation by an accounting machine of an Invoice. Essentially the quantity, description, and unit price of each item sold is entered on the Invoice, the extension is computed, and the machine moves to the next item. The machine will total the extensions to arrive at the gross amount of the Invoice.
	• Repeat above three steps for each item on the Invoice.
4. Obtaining gross total	• Obtain the gross total after the last item has been posted.
5. Computing discounts	• Compute and subtract discounts.
	Depending on the capacity of the machine, discounts can be computed on each item entitled to a discount or on the gross amount of the entire Invoice. Some machines can also compute sales taxes, and freight, and other expenses can be figured into the net cost of the Invoice.
6. Computing taxes and other expenses	• Compute sales tax, if necessary. Add expenses such as freight, commission, and the sales tax.
7. Obtaining net total	• Arrive at the net amount of the Invoice. • Repeat this entire procedure for all the rest of the orders.
C. Billing and posting (combined)	Billing and posting is a combination of billing and a type of Direct Proof system. After completing the Invoice, the operator moves on to the sales Journal side of the machine and proceeds to post

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
	the Invoice just computed to the customer's account (Statement and Card). Usually the customer's name is typed (or typed automatically) on the left side of the Journal and at that point the machine posts the Invoice just computed to the Statement, Card, and Journal. If time and the program of your machine permit, have the students do 6 to 10 Invoices.
1. Steps in billing and posting (combined)	The steps in billing and posting are:
(a) Preliminary steps	• Arrange source documents alphabetically. • Insert roll of Invoices. • Insert program, formulas, and constants. • Set the date(s). • Insert the Journal. • Insert the first customer's Statement and Card.
(b) Clearing the machine	• Clear all registers.
(c) Posting step	• Pick up the customer's old balance (and possibly some proof or verification factors).
(d) Billing steps	• Type the heading on the Invoice. • Pick up the quantity of first item. • Type description of first item. • Pick up the unit price of first item. • Print extensions (computed automatically). • Repeat above three steps for each item on the Invoice. • Obtain the gross for that Invoice. • Compute and subtract discounts. • Compute and add expenses. • Arrive at the net for the Invoice.
(e) Posting steps	• Type customer's name on Sales Journal. The date, reference number, debits (charges), new balance, and proof are all automatically computed at this time and printed on the Statement, Card, and Sales Journal. • Repeat this procedure for all the other orders. • Update the Control Card.

Section 6
Age Analysis

OBJECTIVES

Upon completion of this section, the student will be able to do an age analysis of customers' accounts on an accounting machine.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
I. Machine Forms	This section is an optional one. Whether you should cover it in this course depends upon the amount of time available and the capacity of your machines.
A. Customer Statement	Age analysis includes two elements. One is the preparation of a new Customer Statement with a balance forward in place of a Statement just mailed. The other element is an analysis of the balance of the customer's account over the last four or five months.
B. Tallyroll (Journal tape)	The Tallyroll is the report form upon which the analysis is done, which takes the place of the Journal. It is usually a wide blank roll of paper with carbon that is inserted where the Journal usually goes, and is attached like an adding machine tape to the machine. It can have printed column headings.
C. Customer's Ledger Card	No new entries are made on the customer's Ledger Card. It serves instead as the source document for doing the age analysis of Accounts Receivable.
II. Entry of Statement and Analysis Data	The forms described above are used as follows:
A. Preparation for posting	
1. Insertion of forms	Demonstrate how to insert and aline forms. Have the students practice this so they will have mastered it when they do an actual age analysis. The forms to practice on are the Tallyroll (Journal tape) and the Customer Statement.
2. Monthly Customer Statements	• Prepare new statements for use during the age analysis procedure. Type names and addresses on them.
3. Customers' Ledger Cards	• Pull all the customer's Ledger Cards from the files.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
B. Posting and analyzing	If you decide to teach this section on a vocational proficiency level, have the students do three or four problems. Include 6 to 10 customers in each for analysis and preparation of statements. The procedures explained below are intended to explain the basics of a trial balance-age analysis of accounts. There are many versions of how this analysis is done depending on the policy a company has.
1. Steps in posting	Following are the steps in posting:
a. Preliminary steps	• Arrange new Statements alphabetically. • Arrange customer Ledger Cards alphabetically. • Insert Tallyroll into machine.
b. Clearing of machine	• Clear all registers.
c. Posting to the Statement	• Insert first Customer Statement. • Pick up customer's balance (and possibly a verification factor) from Ledger Card.
2. Steps in analyzing	Following are the steps in analyzing:
a. Analysis considered current	• Pick up in the current column the customers' charges which were charged within the preceding month. (Such charges are called "current.") If this analysis is being done on the first of the month, the charges for this month might be picked up as "very current" amounts. If such charges have been picked up, the previous month's charges would be picked up as *current* in the *current* column.)
b. Analysis considered 30 days old	• Pick up the customer's 2-month-old charges in the 30-day column. (The month before last is 30 days old.)
c. Analysis considered 60 days old	• Pick up the customer's 3-month-old charges in the 60-day column.
d. Analysis considered 90 days old	• Pick up the customer's 4-month-old charges in the 90-day column.
e. Analysis considered over 90 days old	• The over-90-day amount will be done automatically by the accounting machine. (After 90 days the amounts are consolidated into a a group called "over 90 days." Some companies will not bother with current analysis, while others will be interested only in current, 30, and 60 days or more.) • Analyze the accounts of all the other customers. • Follow the previous steps to analyze each customer. Place each Statement with the customer's Ledger Card in the file after they have been used.

CONTENT OUTLINE	CONTENT DETAILS AND TEACHING SUGGESTIONS
f. Down totals	• After the account of the last customer has been analyzed, the Trial Balance and the balance-column down total should equal the Control Card amount. • Obtain the down-column totals for the current, 30, 60, 90, and over-90-day columns.